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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/826,492

04/16/2004

Henry Ho

AMAT/8269/CMP/ECP/RKK

1337

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EXAMINER

WALDBAUM, SAMUEL A

ART UNIT

PAPER NUMBER

1762

MAIL DATE

DELIVERY MODE

09/07/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/826,492

**Applicant(s)**

HO ET AL.

**Examiner**

Samuel A. Waldbaum

**Art Unit**

1709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 7/31/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 12-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of cleaning a bevel (claims 1-11) in the reply filed on July 31, 2007 is acknowledged. The traversal is on the ground(s) that method (claims 24-30) is not different from the apparatus (1-11). This is not found persuasive because the apparatus can be used on a flat surface and the apparatus can be used to add materials.

The requirement is still deemed proper and is therefore made FINAL.

2. Applicant's election with traverse of cleaning a bevel (claims 1-11) in the reply filed on July 31, 2007 is acknowledged. The traversal is on the ground(s) that the cell cleaners (claims 12-23) may be used for cleaning a bevel and the bevel cleaner (claims 1-11) can be used to clean a cell. This is not found persuasive because the applicant stated it himself "may be used" which does not mean it has to be used, it can be used for different applications.

The requirement is still deemed proper and is therefore made FINAL.

3. Applicant's election with traverse of bevel cleaner (claims 1-11) in the reply filed on July 31, 2007 is acknowledged. The traversal is on the ground(s) that there is no difference between apparatus II (claims 12-18) and apparatus III (claims 19-23). This is not found persuasive because the applicant is arguing what "may be done" however what "may be done" is not what is claimed.

The requirement is still deemed proper and is therefore made FINAL.

Art Unit: 1762

***Response to Amendment***

4. Claims 1-30 are pending, claims 12-30 have been withdrawn from consideration as being the non-elected invention. Claims 1 and 7 have been amended, the rejection in the last office action has been withdrawn and a new grounds of rejection are found below.

5. Claim 7 has been amended to correct the mistake in the preamble and the objection of claim 7 is hereby withdrawn.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

***Claims 1 and 6 – 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al (U.S. 6,537,416, hereafter '416) in view of Anderson et al (U.S. 5,851,041, hereafter '041).***

8. Claim 1: '416 is a substrate wafer bevel cleaner. '416 teaches a movable dispensing nozzle expelling an etchant (col. 11, lines 25 – 50), if the nozzle is capable of dispensing an

Art Unit: 1762

etchant is capable of dispensing a cleaning fluid to help clean the substrate wafer. '416 does not teach a holding mechanism for the wafers with rotatable centering posts and rotatable substrate support. '041 is a substrate wafer holder. '041 teaches that the wafer holder is attached to a spin/dry system which would mean that there is a housing holding that system (col. 4, lines 54 – 60). '041 teaches that the substrate support is rotatable through the use of belts and a motor (col. 4 lines 54 – 65). '731 teaches the use of four cooperatively rotatable substrate centering post that remain stationary with respect to the support member (fig. 2, part 215, col. 4, lines 20 – 54, meaning as the support member rotates the centering post remain stationary in that one position on the support member while the support member rotates) to have facilitated the cleaning of the wafer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have include the rotatable substrate support and rotatable centering post of apparatus '041 in apparatus '416 to have facilitated the cleaning of the wafer.

9. Claim 6 – 8: '416 teaches the use of pivoting nozzle in communication with an etchant (col. 11, lines 25 – 50) and a second nozzle in communication with a rinsing solution (col. 8, lines 26 – 45). '416 teaches the use of backside nozzles for dispensing a rinsing solution (col. 8, lines 45 – 55) and a second backside nozzle for dispensing a etchant (col. 9, lines 15 – 25) which is capable of dispensing a cleaning solution.

***Claims 2, 3 – 5 and 9 – 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al (U.S. 6,537,416) in view of Anderson et al (U.S. 5,851,041) as applied to claim 1 above, and further in view of Adachi et al (U.S. pgpub. 2002/0134512, hereafter '512).***

'041 and '416 teach all the limitations of claim 1.

Art Unit: 1762

10. Claim 2: '041 teaches a vertical position shaft (fig. 2, part 215, shows a vertical shaft) and teaches a cap member on terminating end of the shaft (fig. 3, part 216, col. 5, lines 20 – 33). '041 does not teach a raised central portion of the center of the cap and that a substrate center member extending upwards from the cap positioned off-centered. '512 is a substrate wafer cleaner. '512 teaches a that a rotatable pin cover (fig. 12, part 112g, [0087]) that has a raised center from the edge (fig. 8, the raised center can be seen by the upward incline from part 1122 to part 1121) and a projection extend therefrom for centering (fig. 8, part 1121) for holding the wafer in position as the wafer is spinning. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a cap cover as described in apparatus '512 as the cover for the centering post in apparatus '416 in view of '041 for holding the wafer in position as it was spun.

'512 does not teach that the projection (fig. 8 part 1121) is at an offset position from the center of the cap. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have offset the projection from the center of the cover, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

11. Claims 3 – 5: '041 teaches at least 3 rotatable centering post receiving receptacles (fig. 2, centering post, part 215 to connect to part 217, through the housing, part 210 by pin, part 218). Wherein the centering post are linked together so they move as one (fig. 6, part 217 connects the centering posts at each end to the linking arm, part 601), while an actuator (col. 4, lines 60 – 67), which can be powered by air (col. 8, lines 29 – 42) is used to rotate the arms in one cooperative

Art Unit: 1762

movement (fig. 6 – 7, shows the linking arms, part 601, powered by the actuator to collectively move the centering post receiving receptacles, thus moving the arms).

12. Claims 9: '041 teaches that the that the actuator (fig. 6 – 8, part 201) is in communication with the centering post and to simultaneously rotate them in (as seen in the process shown in fig. 6 – 8)

13. Claim 10: '041 teaches that when the center posts (fig. 3, part 215) are rotated that they engage the bevel of the substrate wafer (fig. 3, the dotted outline of the wafer shows where the centering post would engage the bevel edge).

*Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al (U.S. 6,537,416) in view of Anderson et al (U.S. 5,851,041) as applied to claim 1 above, and further in view of Kurihara et al (U.S. 5,820,685, hereafter '685).*

'041 and '461 teach all the limitations of claim 1.

14. Claim 11: '041 and '461 do not teach that the substrate centering posts are vertically movable between a loading and processing position. '685 is wafer support device. '685 teaches that the wafer supports can raise vertically through the bottom of the plate to support the wafer (abstract, col. 1, lines 52 –62). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the center post of apparatus '416 in view of '041 to be elevated and lowered as taught by '685 to provide support for the wafer.

#### ***Response to Arguments***

15. Applicant's arguments filed July 31, 2007 have been fully considered but they are not persuasive.

Art Unit: 1762

16. Claim 1: See new rejection above. The centering posts are stationary with respect the support member, while the support member is rotating.

17. Claim 2: The claim would have been obvious to a person of ordinary skill in the art to try to offset the projections from the center and because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. The applicant further fails to provide evidence why rearranging the parts would be patentable over the prior art.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

18. Claims 3 and 4: The applicant is arguing that an air actuator is not a reduced friction actuator. The applicant fails to provide evidence that a air actuator is not a reduced friction actuator, they only provides arguments that the two actuator are distinct. Therefore the arguments are moot. Also, on page 17, paragraph 39 of the specification, that the their frictionless actuator is a pneumatic actuator, i.e. an air actuator.

'041 teaches that the air actuator comprises a piston by the fact that rod, part 225 is moved up and down by the actuator, hence the rod is the piston (col. 4, lines 60-67).



*Conclusion*

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel A. Waldbaum whose telephone number is 571-270-1860. The examiner can normally be reached on M-TR 7:30-5:00, 1&3 F off, 2&4 F 7:30-4:00 est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-270-1261. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

saw

A handwritten signature in black ink, appearing to be "SAW" with a large, sweeping flourish at the end.A handwritten signature in black ink, appearing to be "Michael B. Cleveland" in a cursive style.

MICHAEL B. CLEVELAND  
SUPERVISORY PATENT EXAMINER